

# PATENT ABSTRACTS OF JAPAN

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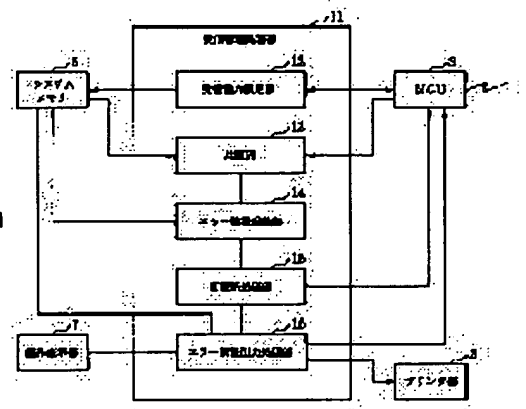
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(54) FACSIMILE EQUIPMENT AND ITS RECEPTION CONTROL METHOD

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a facsimile equipment and its reception control method which improve reliability related to facsimile communication by avoiding the nonconformities accompanying a transmission on an unauthorized condition, which exceeds the reception capability which a facsimile equipment on the reception side declares, from a facsimile equipment on the transmission side.

**SOLUTION:** Reception capability conditions such as a document width (A4, B4, or the like), a compression mode (MH, MMR, or the like) and the line density, which are declared in message pre-procedures to the facsimile equipment on the transmission side, are stored (a reception capability setting part 12), and a line between the facsimile equipment on the reception side and the facsimile equipment on the transmission side is disconnected by a line disconnection processing part 15, if it is detected by a comparison part 13 that a unauthorized transmission condition exceeding the stored reception capability conditions is set in the facsimile equipment on the transmission side.



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[Claim(s)]

[Claim 1] A storage means to memorize the receiving capacity conditions which are facsimile apparatus and made [ above-mentioned ] declaration of performing reception on the receiving capacity conditions declared in the procedure before a message with transmitting-side facsimile apparatus, The memorized this receiving capacity conditions are compared with the transmitting conditions of the drawing information from the above-mentioned transmitting-side facsimile apparatus. A comparison means to detect the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus exceeding the receiving capacity conditions which made [ above-mentioned ] declaration, this comparison means -- the above -- the facsimile apparatus characterized by having a disconnection means to cut the circuit between the above-mentioned transmitting-side facsimile apparatus when unjust transmitting conditions are detected.

[Claim 2] It is the facsimile apparatus characterized by cutting the circuit between the above-mentioned transmitting-side facsimile apparatus when the above-mentioned storage means has a means to memorize manuscript width of face as the above-mentioned receiving capacity conditions, in facsimile apparatus according to claim 1 and, as for the above-mentioned disconnection means, the above-mentioned comparison means detects the transmitting conditions of inaccurate manuscript width of face.

[Claim 3] It is the facsimile apparatus characterized by cutting the circuit between the above-mentioned transmitting-side facsimile apparatus when the above-mentioned storage means has a means to memorize compress mode as the above-mentioned receiving capacity conditions, in facsimile apparatus given in either claim 1 or claim 2 and, as for the above-mentioned disconnection means, the above-mentioned comparison means detects the transmitting conditions of inaccurate compress mode.

[Claim 4] It is the facsimile apparatus characterized by cutting the circuit between the above-mentioned transmitting-side facsimile apparatus when the above-mentioned storage means has a means to memorize linear density as the above-mentioned receiving capacity conditions, in facsimile apparatus given in either of claim 1 to claims 3 and, as for the above-mentioned disconnection means, the above-mentioned comparison means detects the transmitting conditions of inaccurate linear density.

[Claim 5] The facsimile apparatus characterized by to have an error-information output means register the error code showing the circuit having been cut based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus when the above-mentioned disconnection means cuts the circuit between the above-mentioned transmitting-side facsimile apparatus from claim 1 in the facsimile apparatus of a publication based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus by the above-mentioned comparison means to either of claims 4.

[Claim 6] In facsimile apparatus given in either of claim 1 to claims 4 When the above-mentioned disconnection means cuts the circuit between the above-mentioned transmitting-side facsimile apparatus based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus by the above-mentioned comparison means, An error information output means to register the error code showing the circuit having been cut based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus, Facsimile apparatus characterized by having a listing means to output each error code, protocol dump list, and system construction list which were registered into this error information registration means.

[Claim 7] Facsimile apparatus characterized by having a report output means to output the report in which having outputted each above-mentioned error code, the protocol dump list, and the system construction list is shown in facsimile apparatus according to claim 6.

[Claim 8] Facsimile apparatus characterized by changing each above-mentioned error code, a

protocol dump list, and a system construction list into drawing information, and having an information transmitting means to transmit to the transmission place registered beforehand, in facsimile apparatus according to claim 6.

[Claim 9] Facsimile apparatus characterized by having a means to register the above-mentioned receiver's address which changes and sends each above-mentioned error code, a protocol dump list, and a system construction list to drawing information in facsimile apparatus according to claim 8 based on the actuation from a user.

[Claim 10] Cutting of the circuit between the above-mentioned transmitting-side facsimile apparatus according [ on facsimile apparatus according to claim 9 and ] to the above-mentioned disconnection means, The output of each error code by registration of the above-mentioned error code by the above-mentioned error information output means, and the above-mentioned listing means, a protocol dump list, and a system construction list, A means to display the operating procedure as which a user is made to choose whether each processing of transmission at the transmission place into which each above-mentioned error code by the output of the above-mentioned report by the above-mentioned report output means and the above-mentioned information transmitting means, the protocol dump list, and the system construction list are registered beforehand is performed, Facsimile apparatus characterized by having a means to register the contents which the user chose according to the above-mentioned operating procedure, and a means to distinguish whether each above-mentioned processing is performed based on the contents registered with this means.

[Claim 11] The step which memorizes the receiving capacity conditions which are the reception-control approach of facsimile apparatus of performing reception on the receiving capacity conditions declared in the procedure before a message with transmitting-side facsimile apparatus, and made [ above-mentioned ] declaration, The memorized this receiving capacity conditions are compared with the transmitting conditions of the drawing information from the above-mentioned transmitting-side facsimile apparatus. The step which detects the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus exceeding the receiving capacity conditions which made [ above-mentioned ] declaration, this step -- the above -- the reception-control approach of the facsimile apparatus characterized by having the step from which the circuit between the above-mentioned transmitting-side facsimile apparatus is cut when unjust transmitting conditions are detected.

[Claim 12] The reception-control approach of the facsimile apparatus characterized by cutting the circuit between the above-mentioned transmitting-side facsimile apparatus when manuscript width of face is memorized as the above-mentioned receiving capacity conditions and the transmitting conditions of inaccurate manuscript width of face are detected in the reception-control approach of facsimile apparatus according to claim 11.

[Claim 13] The reception-control approach of the facsimile apparatus characterized by cutting the circuit between the above-mentioned transmitting-side facsimile apparatus when compress mode is memorized as the above-mentioned receiving capacity conditions and the transmitting conditions of inaccurate compress mode are detected in the reception-control approach of facsimile apparatus given in either claim 11 or claim 12.

[Claim 14] The reception-control approach of the facsimile apparatus characterized by cutting the circuit between the above-mentioned transmitting-side facsimile apparatus when linear density is memorized as the above-mentioned receiving capacity conditions and the transmitting conditions of inaccurate linear density are detected in the reception-control approach of facsimile apparatus given in either of claim 11 to claims 13.

[Claim 15] The reception-control approach of the facsimile apparatus characterized by having the step which registers the error code showing the circuit having been cut based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus when the circuit between the above-mentioned transmitting-side

facsimile apparatus is cut from claim 11 in the reception-control approach of the facsimile apparatus a publication based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus to either of claims 14.

[Claim 16] In the reception-control approach of facsimile apparatus given in either of claim 11 to claims 14 When the circuit between the above-mentioned transmitting-side facsimile apparatus is cut based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus, The step which registers the error code showing the circuit having been cut based on detection of the unjust transmitting conditions of the above-mentioned transmitting-side facsimile apparatus, The reception-control approach of the facsimile apparatus characterized by having the step which outputs each error code, protocol dump list, and system construction list which were registered at this step.

[Claim 17] The reception-control approach of the facsimile apparatus characterized by having the step which outputs the report in which having outputted each above-mentioned error code, the protocol dump list, and the system construction list is shown in the reception-control approach of facsimile apparatus according to claim 16.

[Claim 18] The reception-control approach of the facsimile apparatus characterized by changing each above-mentioned error code, a protocol dump list, and a system construction list into drawing information, and having the step transmitted to the transmission place registered beforehand in the reception-control approach of facsimile apparatus according to claim 16.

[Claim 19] The reception-control approach of the facsimile apparatus characterized by having the step which registers the above-mentioned receiver's address which changes and sends each above-mentioned error code, a protocol dump list, and a system construction list to drawing information in the reception-control approach of facsimile apparatus according to claim 18 based on the actuation from a user.

[Claim 20] In the reception-control approach of facsimile apparatus according to claim 19 Cutting of the circuit between the above-mentioned transmitting-side facsimile apparatus, The output of registration of the above-mentioned error code, each above-mentioned error code, a protocol dump list, and a system construction list, The step which displays the operating procedure as which a user is made to choose whether each processing of transmission at the transmission place into which the output of the above-mentioned report, each above-mentioned error code, the protocol dump list, and the system construction list are registered beforehand is performed, The reception-control approach of the facsimile apparatus characterized by having the step which registers the contents which the user chose according to the above-mentioned operating procedure, and the step which distinguishes whether each above-mentioned processing is performed based on the contents registered at this step.

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[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the facsimile apparatus which can respond to transmission on unjust conditions efficiently especially, and its reception-control approach with respect to facsimile apparatus.

[0002]

[Description of the Prior Art] in facsimile apparatus, the procedure before a message for doubling conditions, such as transmission speed (9,600bps, 14,400 etc.bps, etc.), linear density (deep -- usually thin), manuscript width of face (A4, B4, etc.), and compress modes (MH:Modified Huffman code, MMR:Modified MR, etc.), between transmitting-side facsimile apparatus and receiving-side facsimile apparatus is performed in Phase B in advance of transmission and reception of drawing information.

[0003] That is, in the procedure before this message, transmitting-side facsimile apparatus notifies each communication link conditions which the transmitting person (operator) set up, such as transmission speed and linear density, to receiving-side facsimile apparatus, and it declares that transmission speed, receiving-side facsimile apparatus, for example, respond, is 9,600bps etc. to it. [ the receiving capacity of self-equipment ]

[0004] According to the receiving capacity declared from this receiving-side facsimile apparatus, transmitting-side facsimile changes a setup of the communication link conditions of self-equipment automatically, and transmits drawing information on the conditions doubled with the receiving capacity which receiving-side facsimile declared. Thereby, normal facsimile communication becomes possible.

[0005] In addition, in such transmitting-side facsimile apparatus, in case the communication link conditions which the operator set up are changed corresponding to declaration of the receiving capacity from receiving-side facsimile apparatus, the technique which notifies an operator of that is indicated by JP,10-294803,A etc. Thereby, the operator of a transmitting side can set up from next time corresponding to the receiving-side facsimile apparatus.

[0006] However, in this way, in spite of having declared the receiving capacity from receiving-side facsimile apparatus, there is facsimile apparatus which transmits drawing information on the unjust conditions beyond the receiving capacity. In such a case, although it is the fault of transmitting-side facsimile apparatus, memory reception will be carried out in receiving-side facsimile apparatus. However, in receiving-side facsimile apparatus, it cannot do in this way and the drawing information which carried out memory reception cannot be outputted normally.

[0007]

[Problem(s) to be Solved by the Invention] The trouble which it is going to solve is a point that transmission on the unjust conditions exceeding the receiving capacity declared with the receiving-side facsimile apparatus from transmitting-side facsimile apparatus cannot be appropriately coped with with receiving-side facsimile apparatus, in a Prior art.

[0008] The purpose of this invention is offering the facsimile apparatus which the technical problem of these conventional technique is solved, and the fault accompanying transmission on the unjust conditions exceeding the receiving capacity declared with the receiving-side facsimile apparatus from transmitting-side facsimile apparatus is avoided, and can aim at improvement in the dependability in connection with facsimile communication, and its reception-control approach.

[0009]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the facsimile apparatus and its reception-control approach of this invention memorize the

receiving capacity conditions (MH, MMR, etc.) declared in the procedure before a message with transmitting-side facsimile apparatus, for example, manuscript width of face (A4, B4, etc.) and compress modes, and linear density, and if the unjust transmitting conditions of the transmitting-side facsimile apparatus exceeding this memorized receiving capacity condition are detected, they will cut the circuit between transmitting-side facsimile apparatus.

[0010] And the error code showing the line connection having been cut based on detection of the unjust transmitting conditions of transmitting-side facsimile apparatus in this way is registered, and it transmits to the service center which printing or a user registered with the protocol dump list and the system construction list. Moreover, the report in which the purport which outputted such a list is shown is outputted.

[0011] Moreover, a user is made to choose whether each processing of the transmission to the output of cutting of the circuit between such transmitting-side facsimile apparatus, registration of an error code, each error code and a protocol dump list, and a system construction list, the printout of a report, a service center, etc. is performed, and it is registered.

[0012]

[Embodiment of the Invention] Hereafter, a drawing explains the example of this invention to a detail. Drawing 1 is the block diagram showing one example of a configuration of starting this invention of the facsimile apparatus of this invention. drawing 1 -- setting -- 1 -- the reading section and 2 -- the printer section and 3 -- the coding decryption section and 4 -- for drawing information memory and 7, as for a network control section (it is indicated as "NCU" among drawing), and 9, an actuation display and 8 are [ the system control section and 5 / a system memory and 6 / a modem and 10 ] buses.

[0013] The reading section 1 is the so-called scanner, scans the manuscript for transmission and generates drawing information. The printer section 2 consists of a laser beam printer etc., and prints received drawing information. The coding decryption section 3 performs coding (compression processing) and a decryption (elongation processing) of drawing information.

[0014] The system control section 4 has CPU (Central Processing Unit), and performs the whole facsimile apparatus motion control containing the reception control concerning this invention with a stored program method. A system memory 5 consists of RAM (Random Access Memory) or a ROM (Read OnlyMemory), and the whole facsimile apparatus the program and data for motion control including the reception-control approach of this invention which CPU of the system control section 4 uses are memorized.

[0015] The drawing information memory 6 accumulates the drawing information for transmission and reception. The actuation display 7 consists of input devices, such as an one-touch key and a ten key, and display devices, such as LCD (LiquidCrystal Display), and is used for interactive input/output operation with a user (operator). The network control section 8 performs connection control with phase hand facsimile apparatus, and transmit/receive control of drawing information. A modem 9 performs the modulation processing and recovery processing to the drawing information transmitted and received.

[0016] In the facsimile apparatus of such a configuration, the reception management processing section 11 which performs the reception control concerning this invention as shown in following drawing 2 by processing of CPU based on the program in a system memory 5 is formed in the system control section 4. And the receiving capacity conditions (MH, MMR, etc.) declared in the procedure before a message with transmitting-side facsimile apparatus, for example, manuscript width of face (A4, B4, etc.) and compress modes, and linear density are memorized, and if the unjust transmitting conditions of the transmitting-side facsimile apparatus exceeding this memorized receiving capacity condition are detected, the circuit between transmitting-side facsimile apparatus will be cut.

[0017] Furthermore, the error code showing the line connection having been cut based on detection of the unjust transmitting conditions of transmitting-side facsimile apparatus in

this way is registered, and it transmits to the service center which printing or a user registered with the protocol dump list and the system construction list. Moreover, the report in which the purport which outputted such a list is shown is outputted.

[0018] Drawing 2 is the block diagram showing the example of a configuration of the reception management processing section which performs the reception control concerning this invention prepared in the facsimile apparatus in drawing 1. The receiving Management Department 11 of this example consists of the receiving capacity setting section 12, a comparator 13, the error information registration section 14, the disconnection processing section 15, and the error information output-processing section 16.

[0019] The receiving capacity setting section 12 memorizes compress modes (MH, MMR, etc.) or linear density, the receiving capacity conditions, for example, the manuscript width of face, of the self-equipment declared in the procedure before a message with the facsimile apparatus of the transmitting origin connected through the network control section 8 (A4, B4, etc.), to each field of a system memory 5. A comparator 13 compares the receiving capacity conditions and the transmitting conditions of transmitting-side facsimile apparatus which were memorized to the system memory 5, and detects the unjust transmitting conditions of the transmitting-side facsimile apparatus exceeding the declared receiving capacity conditions.

[0020] The error information registration section 14 is written in a system memory 5 by making into an error code information which shows a purport with unjust transmitting conditions to transmitting-side facsimile apparatus. Based on detection of the unjust transmitting conditions of the transmitting-side facsimile apparatus by the comparator 13, the disconnection processing section 15 controls the network control section 8, and cuts the circuit between transmitting-side facsimile apparatus. In addition, the cutting result of the circuit by this disconnection processing section 15 is matched with the error code written in a system memory 5 by the error information registration section 14.

[0021] The error information output-processing section 16 prints automatically the error code written in the system memory 5, and a protocol dump list and a system construction list through the printer section 2 based on the directions from the operator through the actuation display 7. Furthermore, the report in which having printed such each information is shown, for example, the report of the contents shown in drawing 8, is printed through the printer section 2. A user can connect a situation by passing, when the error code, the protocol dump list, and the system construction list are kept with this report and a serviceman visits.

[0022] Moreover, the error information output-processing section 16 can also transmit these reports, an error code, a protocol dump list, a system construction list, etc. to the service center beforehand registered as a connection place through the network control section 8. Furthermore, the error information output-processing section 16 performs a setup of whether to perform processing of printing of such a report, or an error code, a protocol dump list and a system construction list, transmission, cutting of the circuit by the disconnection processing section 15, etc., etc. based on directions of the user from the actuation display 7.

[0023] Next, processing actuation of the facsimile apparatus which has such the reception management processing section 11 is explained according to drawing 3. Drawing 3 is a flow chart which shows the example of processing actuation concerning this invention of the facsimile apparatus in drawing 1.

[0024] First, in the phase B at the time of reception (procedure before a message), the receiving capacity which the self-opportunity (receiving side) declared is memorized (step 301), finally a transmitting side determines a transmitting mode based on it, and the receiving capacity which declared them to be reception (step 302) and the determined transmitting mode is measured (step 303).

[0025] It will judge whether the capacity exceeding the declared receiving capacity exists in the determined transmitting mode (step 304), and if it does not exist, it progresses to the



usual receiving flow as it is (step 314), and processing is ended, if it exists, error code registration will be performed (step 305) and disconnection will be performed (step 306).

[0026] Although the receiving side declared manuscript width-of-face capacity to be A4 when the example was hung up and explained Although the case where a transmitting side determines manuscript width-of-face capacity B4 as a transmitting mode, and the receiving side declared compress mode capacity to be MH Although the receiving side declared linear-density capacity to be STD (usually) when a transmitting side determined the compress mode capacity MMR as a transmitting mode or, the transmitting side may have determined the linear-density capacity DTL (fine) as a transmitting mode.

[0027] Next, if it is a setup which judges and (step 307) carries out auto-output of whether it is a setup which carries out auto-output of the various lists of [ for collecting the various data at the time of this error generating ] when it exists in the transmitting mode which the capacity exceeding the declared receiving capacity determined, auto-output of an error code list, a protocol dump list, the system construction list, etc. will be carried out (step 308).

[0028] Furthermore, it judges whether it is a setup which outputs the various notice reports of listing (step 309), and if it is a setup to output, the various notice reports of listing will be outputted (step 310), and it will distinguish whether it is a setup which transmits various lists to the transmission place registered beforehand (step 311).

[0029] In addition, since it is not necessary to output the various notice reports of listing in a setup which does not carry out auto-output of the various lists of [ for collecting various data ] at step 307, it judges whether it is a setup which transmits various lists to the transmission place registered beforehand at step 311, without processing steps 308-310.

[0030] In this step 311, if it judges whether the transmission place is already registered if it is a setup which transmits various lists to the transmission place registered beforehand (step 312) and is already registered, various lists will be made into drawing information and it will transmit to a transmission place (step 313). When having not registered, or in being a setup which does not transmit various lists to the transmission place registered beforehand, it ends processing as it is, without doing anything.

[0031] A user can choose more a setup of whether to perform each processing of the transmission to the output of cutting of the circuit between such transmitting-side facsimile apparatus, registration of an error code, each error code and a protocol dump list, and a system construction list, the printout of a report, a service center, etc. for operating an actuation display, and can register it. Hereafter, setting register operation is explained using drawing 4 - drawing 7 for being based on such a user.

[0032] Drawing 4 is the explanatory view showing the example of a screen configuration of the actuation display used for setting registration of the transmission place of each list. Screen 7a shows the example of a display in a standby condition, and changes to the destination input screen of the list of screen 7b by actuation using a function key etc. defined beforehand. In this screen 7b, a user inputs the telephone number of the destinations, such as "123 --", etc. If an input is completed, if the information ("123 --") which the user inputted as the destination checks whether it is the right and it is good in this screen 7c, it will change to screen 7c, and an input decision is made by the "YES" key, if wrong, the "clearance/No" key will be chosen and input correction will be performed.

[0033] Drawing 5 is the explanatory view showing the example of a screen configuration of the actuation display used for registration of an auto-output setup of each list. 7d of screens shows the example of a display in a standby condition, and they change by actuation using a function key etc. defined beforehand on the auto-output selection screen of the list of Screens 7e and 7f. In these screens 7e and 7f, a user chooses whether the auto-output of a list is set up using scrolling key "<-"/"->."

[0034] Drawing 6 is the explanatory view showing the example of a screen configuration of the actuation display used for setting registration of the auto-output of a list, and the output of a



notice report. 7g of screens shows the example of a display in a standby condition, and they change by actuation using a function key etc. defined beforehand on the notice select report screen of list auto-output of Screens 7h and 7i. In these screens 7h and 7i, a user chooses whether the output of the notice report shown in the auto-output and drawing 8 of a list is set up using scrolling key "<-"/"->."

[0035] Drawing 7 is the explanatory view showing the example of a screen configuration of the actuation display used for setting registration of transmission of a list. Screen 7j shows the example of a display in a standby condition, and changes on a Screens [ 7k and 7m ] list transmitting selection screen by actuation using a function key etc. defined beforehand. In these screens 7k and 7m, a user chooses whether the transmission to the destination registered on Screens 7b and 7c in drawing 4 , for example, a service center, is set up using scrolling key "<-"/"->."

[0036] Drawing 8 is the explanatory view showing the example of a configuration of the corresponding report outputted when the output of a report is chosen by actuation in the notice select report screen of list auto-output in drawing 6 . In notice report of list auto-output 2a of this example, there is a publication "keep it carefully next time till a serviceman visit since it is an important report", and cautions are demanded from the user, for example. ^ "an error code list" listed by this notice report of list auto-output 2a is explained using following drawing 9 .

[0037] Drawing 9 is the explanatory view showing the example of a configuration of the error code list registered and outputted by the reception-control approach of the facsimile apparatus of this invention. error code list 2b of this example -- an error code "0-01" -- "training failure" -- "more than a sensor" is matched with an error code "3-89", and "detail-paper jam generating" is matched with the error code "4-56" for "memory exaggerated generating" by the error code "0-01", respectively. In addition, the same error code is matched also to "the disconnection by transmission on the unjust conditions from transmitting-side facsimile apparatus" concerning this invention.

[0038] As explained using drawing 1 - drawing 9 , as mentioned above, by the facsimile apparatus and its reception-control approach of this example The receiving capacity conditions declared in the procedure before a message with transmitting-side facsimile apparatus, For example, manuscript width of face (A4, B4, etc.), and compress modes (MH, MMR, etc.) or linear density is memorized, and if it detects that the unjust conditions exceeding this memorized receiving capacity condition were set up with transmitting-side facsimile apparatus, the circuit between transmitting-side facsimile apparatus will be cut.

[0039] And the error code showing the line connection having been cut based on detection of the unjust transmitting conditions of transmitting-side facsimile apparatus in this way is registered, and it transmits to the service center which printing or a user registered with the protocol dump list and the system construction list. Moreover, the report in which the purport which outputted such a list is shown is outputted.

[0040] Moreover, a user is made to choose whether each processing of the transmission to the output of cutting of the circuit between such transmitting-side facsimile apparatus, registration of an error code, each error code and a protocol dump list, and a system construction list, the printout of a report, a service center, etc. is performed, and it is registered.

[0041] Thus, since disconnection is carried out with receiving-side facsimile apparatus when transmitting-side facsimile apparatus transmits drawing information on the conditions exceeding receiving condition capacity, such as manuscript width of face declared at the time of reception, and compress mode, linear density, the fault of it becoming impossible to output the drawing information received by the receiving side is cancelable.

[0042] Moreover, when disconnection is carried out by the receiving side, the corresponding error code can be registered and a user and a serviceman can know the reason of clear

disconnection by displaying / outputting the error code list which registered. Moreover, a serviceman can extract the information for problem analyses easily by carrying out auto-output of the list of an error code list, a protocol dump list, system construction lists, etc. [0043] Moreover, even if make a user notice the list by which auto-output was carried out, it makes it keep it carefully and a serviceman visits behind with outputting the report in which it is finally shown that automatic listing was performed in carrying out auto-output of the list of an error code list, a protocol dump list, system construction lists, etc., information is not lost and a serviceman can do information gathering about a problem, and analysis certainly. [0044] Moreover, since the list of the error code list and protocol dump list which were generated, system construction lists, etc. is transmitted to the transmission place (for example, service center) beforehand registered by the user etc. when disconnection is carried out by the receiving side, information gathering about a problem and analysis can be certainly carried out at a transmission place. In addition, a user can set up each above-mentioned selection easily according to his application by actuation in the screen shown by drawing 4 - drawing 7 .

[0045] In addition, this invention is not limited to the example explained using drawing 1 - drawing 9 , and can be variously changed in the range which does not deviate from the summary.

[0046]

[Effect of the Invention] If there is a setup on the unjust transmitting conditions exceeding the receiving capacity which was declared to transmitting-side facsimile apparatus with receiving-side facsimile apparatus according to this invention, since receiving-side facsimile apparatus will cut the circuit between transmitting-side facsimile apparatus, it is possible to carry out memory reception of the drawing information transmitted on such unjust conditions with receiving-side facsimile apparatus, to be able to avoid the fault of it becoming impossible to output after that like before, and to aim at improvement in the dependability in connection with facsimile communication.

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[Translation done.]

## TECHNICAL FIELD

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[Field of the Invention] This invention relates to the facsimile apparatus which can respond to transmission on unjust conditions efficiently especially, and its reception-control approach with respect to facsimile apparatus.

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[Translation done.]

[Description of the Prior Art] in facsimile apparatus, the procedure before a message for doubling conditions, such as transmission speed (9,600bps, 14,400 etc.bps, etc.), linear density (deep -- usually thin), manuscript width of face (A4, B4, etc.), and compress modes (MH:Modified Huffman code, MMR:Modified MR, etc.), between transmitting-side facsimile apparatus and receiving-side facsimile apparatus is performed in Phase B in advance of transmission and reception of drawing information.

[0003] That is, in the procedure before this message, transmitting-side facsimile apparatus notifies each communication link conditions which the transmitting person (operator) set up, such as transmission speed and linear density, to receiving-side facsimile apparatus, and it declares that transmission speed, receiving-side facsimile apparatus, for example, respond, is 9,600bps etc. to it. [ the receiving capacity of self-equipment ]

[0004] According to the receiving capacity declared from this receiving-side facsimile apparatus, transmitting-side facsimile changes a setup of the communication link conditions of self-equipment automatically, and transmits drawing information on the conditions doubled with the receiving capacity which receiving-side facsimile declared. Thereby, normal facsimile communication becomes possible.

[0005] In addition, in such transmitting-side facsimile apparatus, in case the communication link conditions which the operator set up are changed corresponding to declaration of the receiving capacity from receiving-side facsimile apparatus, the technique which notifies an operator of that is indicated by JP,10-294803,A etc. Thereby, the operator of a transmitting side can set up from next time corresponding to the receiving-side facsimile apparatus.

[0006] However, in this way, in spite of having declared the receiving capacity from receiving-side facsimile apparatus, there is facsimile apparatus which transmits drawing information on the unjust conditions beyond the receiving capacity. In such a case, although it is the fault of transmitting-side facsimile apparatus, memory reception will be carried out in receiving-side facsimile apparatus. However, in receiving-side facsimile apparatus, it cannot do in this way and the drawing information which carried out memory reception cannot be outputted normally.

## EFFECT OF THE INVENTION

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[Effect of the Invention] If there is a setup on the unjust transmitting conditions exceeding the receiving capacity which was declared to transmitting-side facsimile apparatus with receiving-side facsimile apparatus according to this invention, since receiving-side facsimile apparatus will cut the circuit between transmitting-side facsimile apparatus, it is possible to carry out memory reception of the drawing information transmitted on such unjust conditions with receiving-side facsimile apparatus, to be able to avoid the fault of it becoming impossible to output after that like before, and to aim at improvement in the dependability in connection with facsimile communication.

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[Translation done.]

## TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] The trouble which it is going to solve is a point that transmission on the unjust conditions exceeding the receiving capacity declared with the receiving-side facsimile apparatus from transmitting-side facsimile apparatus cannot be appropriately coped with with receiving-side facsimile apparatus, in a Prior art.

[0008] The purpose of this invention is offering the facsimile apparatus which the technical problem of these conventional technique is solved, and the fault accompanying transmission on the unjust conditions exceeding the receiving capacity declared with the receiving-side facsimile apparatus from transmitting-side facsimile apparatus is avoided, and can aim at improvement in the dependability in connection with facsimile communication, and its reception-control approach.

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[Translation done.]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the facsimile apparatus and its reception-control approach of this invention memorize the receiving capacity conditions (MH, MMR, etc.) declared in the procedure before a message with transmitting-side facsimile apparatus, for example, manuscript width of face (A4, B4, etc.) and compress modes, and linear density, and if the unjust transmitting conditions of the transmitting-side facsimile apparatus exceeding this memorized receiving capacity condition are detected, they will cut the circuit between transmitting-side facsimile apparatus.

[0010] And the error code showing the line connection having been cut based on detection of the unjust transmitting conditions of transmitting-side facsimile apparatus in this way is registered, and it transmits to the service center which printing or a user registered with the protocol dump list and the system construction list. Moreover, the report in which the purport which outputted such a list is shown is outputted.

[0011] Moreover, a user is made to choose whether each processing of the transmission to the output of cutting of the circuit between such transmitting-side facsimile apparatus, registration of an error code, each error code and a protocol dump list, and a system construction list, the printout of a report, a service center, etc. is performed, and it is registered.

[0012]

[Embodiment of the Invention] Hereafter, a drawing explains the example of this invention to a detail. Drawing 1 is the block diagram showing one example of a configuration of starting this invention of the facsimile apparatus of this invention. drawing 1 -- setting -- 1 -- the reading section and 2 -- the printer section and 3 -- the coding decryption section and 4 -- for drawing information memory and 7, as for a network control section (it is indicated as "NCU" among drawing), and 9, an actuation display and 8 are [ the system control section and 5 / a system memory and 6 / a modem and 10 ] buses.

[0013] The reading section 1 is the so-called scanner, scans the manuscript for transmission and generates drawing information. The printer section 2 consists of a laser beam printer etc., and prints received drawing information. The coding decryption section 3 performs coding (compression processing) and a decryption (elongation processing) of drawing information.

[0014] The system control section 4 has CPU (Central Processing Unit), and performs the whole facsimile apparatus motion control containing the reception control concerning this invention with a stored program method. A system memory 5 consists of RAM (Random Access Memory) or a ROM (Read OnlyMemory), and the whole facsimile apparatus the program and data for motion control including the reception-control approach of this invention which CPU of the system control section 4 uses are memorized.

[0015] The drawing information memory 6 accumulates the drawing information for transmission and reception. The actuation display 7 consists of input devices, such as an one-touch key and a ten key, and display devices, such as LCD (LiquidCrystal Display), and is used for interactive input/output operation with a user (operator). The network control section 8 performs connection control with phase hand facsimile apparatus, and transmit/receive control of drawing information. A modem 9 performs the modulation processing and recovery processing to the drawing information transmitted and received.

[0016] In the facsimile apparatus of such a configuration, the reception management processing section 11 which performs the reception control concerning this invention as shown in following drawing 2 by processing of CPU based on the program in a system memory 5 is formed in the system control section 4. And the receiving capacity conditions (MH, MMR, etc.) declared in the procedure before a message with transmitting-side facsimile apparatus, for example, manuscript width of face (A4, B4, etc.) and compress modes, and linear density are memorized, and if the unjust transmitting conditions of the transmitting-side facsimile



apparatus exceeding this memorized receiving capacity condition are detected, the circuit between transmitting-side facsimile apparatus will be cut.

[0017] Furthermore, the error code showing the line connection having been cut based on detection of the unjust transmitting conditions of transmitting-side facsimile apparatus in this way is registered, and it transmits to the service center which printing or a user registered with the protocol dump list and the system construction list. Moreover, the report in which the purport which outputted such a list is shown is outputted.

[0018] Drawing 2 is the block diagram showing the example of a configuration of the reception management processing section which performs the reception control concerning this invention prepared in the facsimile apparatus in drawing 1 . The receiving Management Department 11 of this example consists of the receiving capacity setting section 12, a comparator 13, the error information registration section 14, the disconnection processing section 15, and the error information output-processing section 16.

[0019] The receiving capacity setting section 12 memorizes compress modes (MH, MMR, etc.) or linear density, the receiving capacity conditions, for example, the manuscript width of face, of the self-equipment declared in the procedure before a message with the facsimile apparatus of the transmitting origin connected through the network control section 8 (A4, B4, etc.), to each field of a system memory 5. A comparator 13 compares the receiving capacity conditions and the transmitting conditions of transmitting-side facsimile apparatus which were memorized to the system memory 5, and detects the unjust transmitting conditions of the transmitting-side facsimile apparatus exceeding the declared receiving capacity conditions.

[0020] The error information registration section 14 is written in a system memory 5 by making into an error code information which shows a purport with unjust transmitting conditions to transmitting-side facsimile apparatus. Based on detection of the unjust transmitting conditions of the transmitting-side facsimile apparatus by the comparator 13, the disconnection processing section 15 controls the network control section 8, and cuts the circuit between transmitting-side facsimile apparatus. In addition, the cutting result of the circuit by this disconnection processing section 15 is matched with the error code written in a system memory 5 by the error information registration section 14.

[0021] The error information output-processing section 16 prints automatically the error code written in the system memory 5, and a protocol dump list and a system construction list through the printer section 2 based on the directions from the operator through the actuation display 7. Furthermore, the report in which having printed such each information is shown, for example, the report of the contents shown in drawing 8 , is printed through the printer section 2. A user can connect a situation by passing, when the error code, the protocol dump list, and the system construction list are kept with this report and a serviceman visits.

[0022] Moreover, the error information output-processing section 16 can also transmit these reports, an error code, a protocol dump list, a system construction list, etc. to the service center beforehand registered as a connection place through the network control section 8. Furthermore, the error information output-processing section 16 performs a setup of whether to perform processing of printing of such a report, or an error code, a protocol dump list and a system construction list, transmission, cutting of the circuit by the disconnection processing section 15, etc., etc. based on directions of the user from the actuation display 7.

[0023] Next, processing actuation of the facsimile apparatus which has such the reception management processing section 11 is explained according to drawing 3 . Drawing 3 is a flow chart which shows the example of processing actuation concerning this invention of the facsimile apparatus in drawing 1 .

[0024] First, in the phase B at the time of reception (procedure before a message); the receiving capacity which the self-opportunity (receiving side) declared is memorized (step 301), finally a transmitting side determines a transmitting mode based on it, and the receiving

capacity which declared them to be reception (step 302) and the determined transmitting mode is measured (step 303).

[0025] It will judge whether the capacity exceeding the declared receiving capacity exists in the determined transmitting mode (step 304), and if it does not exist, it progresses to the usual receiving flow as it is (step 314), and processing is ended, if it exists, error code registration will be performed (step 305) and disconnection will be performed (step 306).

[0026] Although the receiving side declared manuscript width-of-face capacity to be A4 when the example was hung up and explained Although the case where a transmitting side determines manuscript width-of-face capacity B4 as a transmitting mode, and the receiving side declared compress mode capacity to be MH Although the receiving side declared linear-density capacity to be STD (usually) when a transmitting side determined the compress mode capacity MMR as a transmitting mode or, the transmitting side may have determined the linear-density capacity DTL (fine) as a transmitting mode.

[0027] Next, if it is a setup which judges and (step 307) carries out auto-output of whether it is a setup which carries out auto-output of the various lists of [ for collecting the various data at the time of this error generating ] when it exists in the transmitting mode which the capacity exceeding the declared receiving capacity determined, auto-output of an error code list, a protocol dump list, the system construction list, etc. will be carried out (step 308).

[0028] Furthermore, it judges whether it is a setup which outputs the various notice reports of listing (step 309), and if it is a setup to output, the various notice reports of listing will be outputted (step 310), and it will distinguish whether it is a setup which transmits various lists to the transmission place registered beforehand (step 311).

[0029] In addition, since it is not necessary to output the various notice reports of listing in a setup which does not carry out auto-output of the various lists of [ for collecting various data ] at step 307, it judges whether it is a setup which transmits various lists to the transmission place registered beforehand at step 311, without processing steps 308-310.

[0030] In this step 311, if it judges whether the transmission place is already registered if it is a setup which transmits various lists to the transmission place registered beforehand (step 312) and is already registered, various lists will be made into drawing information and it will transmit to a transmission place (step 313). When having not registered, or in being a setup which does not transmit various lists to the transmission place registered beforehand, it ends processing as it is, without doing anything.

[0031] A user can choose more a setup of whether to perform each processing of the transmission to the output of cutting of the circuit between such transmitting-side facsimile apparatus, registration of an error code, each error code and a protocol dump list, and a system construction list, the printout of a report, a service center, etc. for operating an actuation display, and can register it. Hereafter, setting register operation is explained using drawing 4 - drawing 7 for being based on such a user.

[0032] Drawing 4 is the explanatory view showing the example of a screen configuration of the actuation display used for setting registration of the transmission place of each list. Screen 7a shows the example of a display in a standby condition, and changes to the destination input screen of the list of screen 7b by actuation using a function key etc. defined beforehand. In this screen 7b, a user inputs the telephone number of the destinations, such as "123 --", etc. If an input is completed, if the information ("123 --") which the user inputted as the destination checks whether it is the right and it is good in this screen 7c, it will change to screen 7c, and an input decision is made by the "YES" key, if wrong, the "clearance/No" key will be chosen and input correction will be performed.

[0033] Drawing 5 is the explanatory view showing the example of a screen configuration of the actuation display used for registration of an auto-output setup of each list. 7d of screens shows the example of a display in a standby condition, and they change by actuation using a function key etc. defined beforehand on the auto-output selection screen of the list of Screens

7e and 7f. In these screens 7e and 7f, a user chooses whether the auto-output of a list is set up using scrolling key "<"/"/>."

[0034] Drawing 6 is the explanatory view showing the example of a screen configuration of the actuation display used for setting registration of the auto-output of a list, and the output of a notice report. 7g of screens shows the example of a display in a standby condition, and they change by actuation using a function key etc. defined beforehand on the notice select report screen of list auto-output of Screens 7h and 7i. In these screens 7h and 7i, a user chooses whether the output of the notice report shown in the auto-output and drawing 8 of a list is set up using scrolling key "<"/"/>."

[0035] Drawing 7 is the explanatory view showing the example of a screen configuration of the actuation display used for setting registration of transmission of a list. Screen 7j shows the example of a display in a standby condition, and changes on a Screens [ 7k and 7m ] list transmitting selection screen by actuation using a function key etc. defined beforehand. In these screens 7k and 7m, a user chooses whether the transmission to the destination registered on Screens 7b and 7c in drawing 4 , for example, a service center, is set up using scrolling key "<"/"/>."

[0036] Drawing 8 is the explanatory view showing the example of a configuration of the corresponding report outputted when the output of a report is chosen by actuation in the notice select report screen of list auto-output in drawing 6 . In notice report of list auto-output 2a of this example, there is a publication "keep it carefully next time till a serviceman visit since it is an important report", and cautions are demanded from the user, for example. ^ "an error code list" listed by this notice report of list auto-output 2a is explained using following drawing 9 .

[0037] Drawing 9 is the explanatory view showing the example of a configuration of the error code list registered and outputted by the reception-control approach of the facsimile apparatus of this invention. error code list 2b of this example -- an error code "0-01" -- "training failure" -- "more than a sensor" is matched with an error code "3-89", and "detail-paper jam generating" is matched with the error code "4-56" for "memory exaggerated generating" by the error code "0-01", respectively. In addition, the same error code is matched also to "the disconnection by transmission on the unjust conditions from transmitting-side facsimile apparatus" concerning this invention.

[0038] As explained using drawing 1 - drawing 9 , as mentioned above, by the facsimile apparatus and its reception-control approach of this example The receiving capacity conditions declared in the procedure before a message with transmitting-side facsimile apparatus, For example, manuscript width of face (A4, B4, etc.), and compress modes (MH, MMR, etc.) or linear density is memorized, and if it detects that the unjust conditions exceeding this memorized receiving capacity condition were set up with transmitting-side facsimile apparatus, the circuit between transmitting-side facsimile apparatus will be cut.

[0039] And the error code showing the line connection having been cut based on detection of the unjust transmitting conditions of transmitting-side facsimile apparatus in this way is registered, and it transmits to the service center which printing or a user registered with the protocol dump list and the system construction list. Moreover, the report in which the purport which outputted such a list is shown is outputted.

[0040] Moreover, a user is made to choose whether each processing of the transmission to the output of cutting of the circuit between such transmitting-side facsimile apparatus, registration of an error code, each error code and a protocol dump list, and a system construction list, the printout of a report, a service center, etc. is performed, and it is registered.

[0041] Thus, since disconnection is carried out with receiving-side facsimile apparatus when transmitting-side facsimile apparatus transmits drawing information on the conditions exceeding receiving condition capacity, such as manuscript width of face declared at the time

of reception, and compress mode, linear density, the fault of it becoming impossible to output the drawing information received by the receiving side is cancelable.

[0042] Moreover, when disconnection is carried out by the receiving side, the corresponding error code can be registered and a user and a serviceman can know the reason of clear disconnection by displaying / outputting the error code list which registered. Moreover, a serviceman can extract the information for problem analyses easily by carrying out auto-output of the list of an error code list, a protocol dump list, system construction lists, etc.

[0043] Moreover, even if make a user notice the list by which auto-output was carried out, it makes it keep it carefully and a serviceman visits behind with outputting the report in which it is finally shown that automatic listing was performed in carrying out auto-output of the list of an error code list, a protocol dump list, system construction lists, etc., information is not lost and a serviceman can do information gathering about a problem, and analysis certainly.

[0044] Moreover, since the list of the error code list and protocol dump list which were generated, system construction lists, etc. is transmitted to the transmission place (for example, service center) beforehand registered by the user etc. when disconnection is carried out by the receiving side, information gathering about a problem and analysis can be certainly carried out at a transmission place. In addition, a user can set up each above-mentioned selection easily according to his application by actuation in the screen shown by drawing 4 - drawing 7 .

[0045] In addition, this invention is not limited to the example explained using drawing 1 - drawing 9 , and can be variously changed in the range which does not deviate from the summary.

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[Translation done.]